

We claim:

1. A process for the oligomerization of olefins, in which an
5 olefin is brought into contact with a catalyst system
comprising
 - a) at least one transition metal complex with a polydentate
10 complexing ligand and
 - b) an alkylaluminumoxane in such amounts that the molar ratio
of aluminum:transition metal is greater than 10,
15 wherein at least part of the amount of the transition metal
complex is added continuously or in portions during the
oligomerization.
2. A process as claimed in claim 1, wherein a partial amount of
20 the transition metal complex is initially charged together
with the alkylaluminumoxane and the molar ratio of
aluminum:transition metal is reduced to less than half of the
initial value by addition of at least one further partial
amount of the transition metal complex.
- 25 3. A process as claimed in claim 2, wherein the initial molar
ratio of aluminum:transition metal is greater than 100.
4. A process as claimed in any of the preceding claims, wherein
the transition metal is chromium.
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5. A process as claimed in any of the preceding claims, wherein
the complexing ligand is a polydentate nitrogen-containing
complexing ligand.
- 35 6. A process as claimed in claim 5, wherein the complexing
ligand comprises a 1,3,5-triazacyclohexane or
1,4,7-triazacyclononane skeleton.
7. A process as claimed in any of the preceding claims, wherein
40 the alkylaluminumoxane is methylaluminumoxane.